

Claims

1. (Withdrawn) A navi-server which is provided with information from a traffic information providing center, and presents and provides information made on the information to a terminal, the navi-server comprising:

a first storage means storing the information provided from said traffic information providing center;

a traffic jam statistical making means which makes traffic jam statistical information including traffic jam information in a predetermined point and a predetermined zone as well as a reliability of the traffic jam information, based on information stored in the first storage means; and

a second storage means storing information made by the traffic jam statistical making means,

wherein the navi-server presents and provides the information stored in the second storage means to said terminal, based on a request of said terminal and at a predetermined timing.

2. (Withdrawn) A navi-server according to claim 1, wherein said terminal is an in-vehicle navigation apparatus, said predetermined point is a predetermined intersection, said predetermined zone is a predetermined road zone, and said traffic jam information is information inclusive of at least one of a traffic jam occurrence frequency and average traffic jam degree.

3. (Withdrawn) A navi-server according to claim 1, wherein said traffic jam statistical making means makes said traffic jam statistical information with respect to each segment of a weather and road surface situation, based on information relating to past traffic information stored in said first storage means and the weather and the road surface situation from a meteorological information providing center.

4. (Withdrawn) A navi-server according to claim 1 which detects an abnormal value based on stored past traffic information and makes traffic jam statistical information including traffic jam information which is information including at least one of a traffic jam occurrence frequency and average traffic jam degree in a road zone of a predetermined point such as an intersection and between intersections as well as a reliability of the traffic jam information after removing the abnormal value if any.

5. (Withdrawn) A navi-server wherein as a detecting means of an abnormal value in the traffic jam statistical information making means of claim 4, a first detecting means judges and detects whole data of a predetermined period to be abnormal when a greater part of the predetermined period shows a traffic jam, and a second detecting means judges and detects data with a large deviation to be abnormal by comparing traffic jam information of a same time zone for a plurality of days.

6. (Withdrawn) In a navigation system configured of a navi-server providing information with a navigation apparatus by controlling a road map and traffic information, and the navigation apparatus outputting the traffic information by sending data to and receiving data from the navi-server, the navi-server comprising:

a traffic jam forecast information making means making traffic jam forecast information composed of traffic jam forecast information for a future traffic jam trend of each traffic jam and a reliability of the traffic jam forecast information, from stored traffic jam information and real-time traffic jam information.

7. (Currently amended) A display method for a car navigation system which displays a position and proceeding direction of a user's car on a road map and displays a guide route on the road map, the display method overlappingly displaying a graphic at a position on the road map corresponding to traffic jam statistical information,

wherein an area surrounded by said graphic depends on the traffic jam statistical information and a statistical reliability of the traffic jam statistical information,

wherein said statistical reliability is a rank classification depending on an evaluation of a repeatability of the traffic jam information, based on a standard

deviation of said traffic jam information ~~in a road zone between predetermined points such as intersections, or between the intersections,~~

wherein the standard deviation is obtained ~~from the traffic jam information, where whole data of a day, when a predetermined time or more in the day indicate a traffic jam, and data having a large deviation, when traffic jam information in a same time zone is compared for a plurality of days, are removed in advance as abnormal data~~ by:

a first step of removing a day of data in advance as abnormal data when a predetermined time or more in the day indicate a traffic jam;

a second step of removing data having a large deviation in advance as abnormal data when traffic jam information in a same time interval is compared for a plurality of days; and

a step of calculating each standard deviation of the traffic jam statistical information at a predetermined location where the abnormal data is removed by the first and second steps, and

wherein said graphic has a perimeter that changes based on said statistical reliability.

8. (Previously presented) A display method for a car navigation system according to claim 7, wherein the graphic is circular depending on the traffic jam statistical information, the method comprising the steps of:

separating an inside of the circle into sectors depending on a time zone, and classifying and displaying colors of the sectors depending on one of a traffic jam occurrence frequency and average traffic jam degree in the traffic jam statistical information.

9. (Canceled).

10. (Previously presented) A display method for a car navigation system according to claim 7 wherein said graphic is selected from the group consisting of a solid line, a dotted line, a broken line, and a dashed line.

11. (New) A display method for a car navigation system according to claim 7, wherein the predetermined point is an intersection.

12. (New) A display method for a car navigation system according to claim 7, wherein the predetermined location is a road zone between intersections.